

news

For the new year, TerraQuest has a new look for our newsletter. We hope that you find the articles interesting and helpful. If you have any suggestions for articles or would like more information on a specific topic, please contact us.

In an effort to keep publication costs down, TerraQuest will begin posting newsletters on our revised website in the near future. Our website address is [www.terraquestpc.com](http://www.terraquestpc.com). If you would like to receive newsletters by e-mail, please send your e-mail address to Michael at [mjbrown@terraquestpc.com](mailto:mjbrown@terraquestpc.com). Your e-mail will not be used to send any information other than the newsletter.

**LEAKING UST TRUST FUND UPDATE**

As of December 2003, there had been 18,858 reported UST releases in North Carolina and 9,236 had been closed (Water Resources Research Institute). The cost for dealing with those releases through 2003 was \$415 million. In the fall of 2004, there were approximately \$36 million in claims. At that time, the General Assembly passed Session Law 124 to further limit the amount of work being conducted and to provide a mechanism such that work being requested could be reimbursed within 90 days. With an additional infusion of cash from Highway Funds and Highway Trust Funds, and the reduced amount of work being performed, the trust fund hopes to be solvent by October 2005. Currently, the amount of claims pending in the trust fund is approximately \$13 million.

Trust fund applications and claims are being processed quicker, but still take 4–6 months minimum. More questions are being asked about other potential sources of contamination at sites including other tanks. Information requested by the trust fund to satisfy the application is not reimbursable.

Recent discussions with various State personnel and other agencies indicates a lot of uncertainty in how the trust fund program will be administered in the future. According

to the Association of State Underground Storage Tank Cleanup Funds, of the 47 states that have LUST trust funds, 18 have set dates after which new releases will no longer be covered or at which the fund program ends. Since 1998, Texas has required tank owners and operator to have some other financial mechanism in place for dealing with leaks other than the trust fund. The Texas trust fund will not exist after September 1, 2006.

North Carolina is currently considering requiring tank owners to have private insurance to cover the assessment and remediation of leaks. Private insurance costs will be much higher than the typical tank fees currently charged and insurance carriers will require assessments prior to issuing insurance.

What does the future hold? The answer is simple. Without additional funding, costs for addressing leaking tanks will rise and leaks will take longer to cleanup.

Tank owners are urged to closely monitor this situation and discuss funding options with their representatives. If you would like additional information about the recent changes, please contact us.



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## PRESERVING YOUR WOOD AND THE ENVIRONMENT

The regulation of the sale, distribution, and use of pesticides in the United States is the responsibility of the EPA under Federal Law. Such pesticides include Chromated Copper Arsenate (CCA) formerly used to create "treated" lumber.

Treated lumber is beneficial in that it eliminates the wood fibers as a food source for insects and fungus, thus preventing wood decay (Workbench Magazine, February 2005). However, the presence of inorganic arsenate in CCA, a known human carcinogen, prompted a responsible, voluntary transition to other treatment compounds by the wood treatment industry. Furthermore, as of January 1, 2004, the EPA no longer allowed the use of CCA to treat wood intended for residential use.

Most wood treated with CCA has been taken off the shelves by consumers and has been replaced by industry wood treated with Alkaline Copper Quaternary or Copper Azole. These compounds do not contain arsenic but rely more heavily on copper to treat wood fibers. Increasing the amount of copper involved in the treatment is expensive though, and the price has been passed on to consumers.

From a safety standpoint, consumers should still be cautious of CCA treated wood around their house and where children play. Unacceptable lev-

els of arsenic can be transferred to the skin through contact with the wood. CCA treated wood should not be burned and the ash may also cause exposure issues. Animals should not be allowed to chew on CCA treated wood and CCA treated wood should not be used around planter beds where vegetables are grown. Although there is some debate about the ability of the arsenic to be passed to the soil and into the plants, it is widely known that plants can readily absorb metals and other contaminants.

Some manufacturers of wood sealants have prepared products that can be applied to CCA treated wood to reduce exposure concerns. All sealants must be periodically reapplied. However, until the wood is completely eliminated, the threat of exposure remains. The EPA maintains many fact sheets on their website regarding contaminants including CCA treated wood. If you would like additional information, please contact us or visit the EPA website at [www.epa.gov](http://www.epa.gov).

## INNOVATIVE REMEDIAL TECHNOLOGIES

Innovative remedial technologies are often newer, specialized methods of remediation that can significantly reduce the time required for remediation of contaminated sites. Historically, many regulators and responsible parties have been reluctant to use innovative remedial methods because of the cost and fear that they may not work. However, there is growing evidence that many of these methods can significantly reduce cleanup costs and reduce cleanup times.

One innovative remedial technology gaining wide acceptance is chemical oxidation. In this process,

various types of chemicals are injected into the subsurface (typically groundwater) to remediate contaminants. In some cases, once the chemicals are injected, they react with the contaminants and form harmless byproducts. Oth-

ers may require recovery and further treatment. Some commonly injected products are ozone, hydrogen peroxide, and potassium permanganate.

For certain sites, the use of innovative remedial methods may be the best option for accelerating site closure. They are of particular interest at sites where the contaminants are localized and at low concentrations. These technologies may even be utilized for the remediation of petroleum contaminants. Currently, these methods are not recognized for reimbursement by the leaking underground storage tank trust fund, but may offer responsible parties a better alternative than continuing more traditional remediation or letting an underdeveloped property sit idle.

If you would like more information on innovative remedial technologies or have a particular site you would like to discuss, please contact us for more information.



## EXPEDITING SITE CLOSURE THROUGH EXCAVATION

In order for remediation to be successful, the source(s) of contamination must be identified. Basically, there are primary and secondary sources of contamination. A primary source of contamination could be a leaking tank, drum, product line, etc. Secondary sources of contamination are usually soil, but could be other materials as well. In the case of aboveground tanks or material pads, contaminated concrete could be a secondary source of contamination.

The first step to successful remediation is eliminating the primary source. Efforts to remediate secondary sources will not be successful unless the primary source is removed. The method of treatment for secondary sources is dependent upon several factors including the type of contaminant, regulatory cleanup levels, client objectives, contaminant concentrations, and volume of contamination.

To better understand how these factors determine what method of reme-

diation is appropriate, let's look at some examples.

*Site 1: 8,000 tons of silty-clayey soil contaminated with gasoline and diesel fuel, depth-to-water is 1.5 feet, area is accessible, potable wells nearby, and site is involved in a property transaction. Minimal groundwater contamination.* In this case, excavation would likely be the best option because in-situ treatment options would take years, potentially impact the property transaction, and could lead to increased levels of groundwater contamination.

*Site 2: 1,500 tons of sandy soil contaminated with gasoline to a depth of 30 feet, area is accessible and client has no immediate need to complete remediation in a short period of time.* In this case, excavation would not likely be the best option because of the cost involved in excavating

to 30 feet. In-situ treatment by soil vapor extraction would likely be less expensive and could be achieved in a few years.

Good site assessment and careful consideration of cleanup alternatives can result in not only significant cost savings, but expediting remediation and site closure. While excavation costs can be high in the short term, they can lower overall cleanup cost and expedite site closure.



## NEW STANDARDS FOR PHASE I AUDITS

A new standard is fast approaching for performing environmental due diligence during commercial property transactions. Congress mandated that the existing standard

established by the American Society for Testing and Materials (ASTM) (E1527-00) be replaced by a new "all appropriate inquiry" standard as part of the 2002 "Brownfields" amendments to CERCLA. Purchasers of commercial property in the near future will have to conduct "all appropriate inquiry" (AAI) in order to avoid liability associated with existing contamination issues on or near the newly acquired property. The new rule will require a broader scope of environmental inquiry including: 1) more rigorous interviews with current and past owners and operators of the subject property and in some cases owners and occupants of neighboring properties, 2) a more thorough visual inspection of adjoining properties, 3) review a broader array of government records and 4) a specific acknowledgement of uncertainties that may

effect the environmental professionals' conclusions.

Once AAI is approved, ASTM will revise their current Phase I standards. TerraQuest will monitor the forthcoming changes and implement the new standards when applicable. Purchasers of commercial property should pay close attention to which standard is in place before completing any transaction in the near future.

If you have any specific questions regarding Phase I audits or the new AAI standards, please contact Ryan Turner or Jonathan Grubbs.



TerraQuest Environmental Consultants, P.C. is a full service environmental consulting company providing assessment and remediation services to various industries. Our highly trained staff is OSHA certified and able to provide clients with high quality, cost competitive services. If you have any questions regarding our services, please contact us.

**Specializing In:**

- Phase I/Phase II audits
- Soil and Groundwater assessment and remediation
- Drilling and Geoprobng
- UST removal and in-place abandonment
- Permitting
- Pilot testing
- Expert witness testimony
- Brownfields




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## PHASE I vs. PHASE II AUDITS

We often get questions about Phase I and Phase II audits and which one is appropriate. Everyone should understand that there are major differences between the audits.

A Phase I audit is typically requested by a buyer or lending agency during a property transaction. The purpose of the Phase I audit is to identify the potential presence of recognized environmental conditions (RECs). An REC might be an area of dead vegetation, soil staining, collection of chemical containers, pres-

ence of oil tanks, etc. The RECs are identified in a report and recommendations are made as to whether or not additional assessment such as sampling is needed. Testing of RECs is not conducted during a Phase I audit.

Sampling and testing is conducted during Phase II audits to determine if contaminants are present.

While some lending agencies may be satisfied with a Phase I audit, sampling should always be

conducted to verify if contaminants are present at REC areas. There is always confusion about conducting Phase I audits at gas stations. The Phase I audit will tell you that the tanks may have leaked. The Phase II audit will tell you if the tanks have leaked.

Before you decide which audit is best for you, you should understand the limitations of each and discuss them with an environmental professional and an environmental attorney.

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## AIRPLANE WATER CONCERNS

According to the EPA, total coliform and E.coli are indicators that other disease-causing organisms may be present in water that could potentially affect public health. The EPA investigated the presence of total coliform bacteria in airplane tank water that provides potable water to the galleys and lavatory sinks. The analytical results of this testing revealed that 17.2 percent of 169 randomly selected passenger aircraft carried water contaminated with total coliform bacteria. In light of the information, the EPA is recommending that persons with compromised immune systems or are con-

cerned with the possible presence of bacteria refrain from drinking non-bottled water on airplanes or drinks made without bottled water. The airline industry is currently taking steps to improve water quality.

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